



## Stakeholder Comments

### 2017-2018 Transmission Planning Process

Submitted by	Company	Date Submitted
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CESA appreciates the opportunity to comment on Southern California Edison Company's ("SCE") proposed Moorpark-Pardee 230-kV No. 4 Circuit Project.

SCE submitted their Moorpark Procurement Plan on December 21, 2017, which aims to procure preferred resources and energy storage in combination with a potential transmission solution to meet the local capacity requirement ("LCR") of the Moorpark sub-area and to address resiliency objectives in the Goleta area. Specifically, SCE identified a transmission solution – *i.e.*, a fourth 230-kV line between Moorpark and Pardee – in the 2017-2018 Transmission Planning Process ("TPP") that could reduce the LCR deficiency in the Moorpark sub-area by 232 MW to 76 MW and address voltage collapse issues from the first three Moorpark-Pardee lines.<sup>1</sup> As CESA understands it, the fourth line would be developed on the existing infrastructure for the other lines and mitigate the Moorpark LCR needs but not the 105 MW Goleta area resiliency needs.

The California Independent System Operator ("CAISO") presented their overview, reliability assessment, and economic assessment of the Moorpark-Pardee 230-kV No. 4 Circuit Project during a stakeholder call on January 11, 2018. During the call, the CAISO also presented on various non-transmission alternatives considered, which in addition to SCE's proposed plan ("Alternative 1") includes a 318-MW resource portfolio of preferred resources and energy storage ("Alternative 2") and a 240 Mvar dynamic reactive power support coupled with 135-MW

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<sup>1</sup> SCE Moorpark Procurement Plan, p. 12.

resource portfolio of preferred resources and energy storage (“Alternative 3”). The CAISO analysis demonstrated increased grid resilience but higher operational complexity, capital costs, and maximum thermal loading on the existing Pardee-Santa Clara 230-kV line under a critical contingency for Alternative 2 relative to Alternative 1. The CAISO did not indicate which solution that it would recommend but noted that it will include a recommendation in the Draft 2017-2018 Transmission Plan on January 31, 2018.

CESA supports the CAISO’s efforts to study alternatives and SCE’s consideration of preferred resources and energy storage to meet their LCR and resilience needs in the Moorpark sub-area. The leadership by CAISO and SCE is instrumental to ensuring grid reliability while advancing the state toward its clean energy and environmental goals. In these comments, CESA seeks to further understand the underlying grid needs and to encourage the CAISO to carefully consider the relative costs and benefits of transmission solutions and non-wires alternatives and how they link to the underlying grid needs and procurement objectives. By all means, CESA believes that transmission solutions may be appropriate and necessary in some conditions to ensure that local areas can receive operations under relevant reliability planning standards. CESA also notes, however, that there may be opportunities for generation-type solutions or for non-wires transmission alternatives to meet those same planning standards while meeting other key objectives such as resiliency that may not be fully captured or accounted for in those planning standards.

In this instance, CESA requests further consideration on whether the reliability outcomes and expectations are appropriate, even if reliability standards may be met. Further, CESA requests careful review and calculation of expected costs and project online dates. All of these variables must be assessed in a defensible manner and should inform any CAISO determination.

CESA appreciates the CAISO’s consideration of these comments.

### **Reliability Study Results**

CESA understands that there are three existing Moorpark-Pardee lines: the No. 1 and No. 2 lines strung on the same transmission tower and the No. 3 line on an adjacent two-circuit transmission tower with an open position for the proposed No. 4 line. Further, CESA understands that planning standards authorize CAISO to drop load after two contingencies, if needed, to stabilize the grid. For the Moorpark-Pardee lines, a loss of the No. 3 line (N-1 contingency), followed by an outage of the No. 1 and No. 2 lines (N-2 contingency) could lead to voltage collapse. The cascading loss of the three lines also creates an LCR need in the Moorpark sub-area as there is limited generation in the sub-area to reliably serve the load without any of the transmission lines. Under the current planning standards, the Moorpark LCR needs are being driven by this N-1/N-2

contingency event,<sup>2</sup> whereby the proposed No. 4 line would serve to reduce the LCR in the Moorpark sub-area and avoid voltage collapse by creating redundancy in the two-circuit transmission tower with the existing No. 3 and proposed No. 4 lines.

In light of this assessment of how the line outages affect reliability, CESA understands that the addition of the Moorpark-Pardee line may support compliance with applicable grid contingency standards but may not support local reliability in cases where all lines are out. For this reason, if CESA understands it correctly, CESA requests clarification and further differentiation of how localized generation (including from energy storage resources) may actually boost the actual reliability and service-delivery to customers in the affected area in a case of the expected contingency.

Furthermore, CESA understands that the CAISO is reasonably assessing the proposed No. 4 line to meet established planning standards, which only requires actions to remedy a single contingency (when the N-1 contingency event occurs first) and does not require assessing and taking action toward mitigating potential extreme weather events that may disrupt an entire transmission corridor. While the CAISO is only required to study transmission reliability issues and assess mitigation solutions for narrowly defined situations, CESA believes that there may be opportunities for non-wires alternatives to address the same planning standards that simultaneously address some of the resilience concerns in the Moorpark sub-area.

CESA believes this line of questioning is appropriate and reasonable because conditions prompting an outage on any of the Moorpark-Pardee line might very well affect both lines. Particularly given recent and unfortunate natural disasters in the area, CESA understands the transmission tower for the No. 1 and No. 2 lines could be taken out of service at the same time as any outages to lines No. 3 and No. 4, leading back to the underlying issue driving the LCR and voltage stability need in the Moorpark sub-area. While planning standards should inform decisions and determination, it may be that the standards fail to respond to the actual conditions in ways that fully or more functionally support customer reliability. In the case of a major event impacting a transmission line, CESA is concerned that stringing an additional line on an existing transmission tower may not reduce susceptibility to extreme weather events (*e.g.*, wildfires, earthquakes, and mudslides). In addition, while the proposed No. 4 line would reduce the Moorpark LCR needs, it does not appear to increase the amount of load that could be served especially if the Moorpark-Pardee transmission corridor is compromised.

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<sup>2</sup> In the situation where there is a loss to the No. 1 and No. 2 lines on the same transmission tower, the CAISO is allowed to shed load when the first events is an N-2 contingency event under current planning standards. Thus, as CESA understands it, the first N-1 contingency of the loss of the No. 3 line is one of the core drivers of the Moorpark Procurement Plan and the proposed No. 4 line.

### **Transmission Proposal Approval**

The proposed Moorpark-Pardee 230-kV No. 4 Circuit Project has a requested in-service date by December 31, 2020 to time it with the scheduled once-through-cooling generating unit retirements. Meeting this online date is obviously key; however, CESA seeks to determine whether this transmission solution requires approval in the 2017-2018 TPP or whether it is feasible to postpone its potential approval to the 2018-2019 TPP cycle. Given the concerns highlighted above, CESA believes that continued study by the CAISO on the reliability impacts and costs of non-wires alternatives would be beneficial. In addition, SCE will have launched its Moorpark LCR / Goleta Resilience Request for Proposals (“RFP”), according to the proposed schedule in its Moorpark Procurement Plan, through which indicative offers could directly inform the CAISO’s economic analysis with actual, up-to-date cost numbers.

Ultimately, CESA defers to the CAISO and SCE on whether a 12- or 18-month deployment and construction timeline is feasible for the proposed No. 4 line, but requests that, if it can reasonably be accomplished, it should be delayed to allow for more careful consideration of non-wires alternatives and how it can address both the LCR and resilience needs of the Moorpark sub-area.

### **Study Assumption Updates on Energy Storage Costs and Societal Costs**

CESA believes further study of alternatives to the proposed Moorpark-Pardee 230-kV No. 4 Circuit Project could be in the best interests of reliability and of ratepayers. These studies should reflect more updated forward-looking energy storage price inputs. This could inform non-wires alternative studies as well as cost-comparisons to the proposed Moorpark-Pardee No. 4 line. For instance, based on discussion on the January 11, 2018 stakeholder call, the CAISO study assumed capital costs of energy storage using inputs to the CAISO’s Moorpark Sub-Area Local Capacity Alternative Study in August 2017. CESA noted in previous comments to the California Energy Commission (“CEC”) regarding the review of the Puente Power Project on how CAISO’s study used capital cost numbers that were outdated by several years, leading to the CAISO issuing a letter that the best means of price discovery on more up-to-date cost numbers for energy storage would be through a competitive solicitation.

Study assumptions should also attempt to reflect the costs and likelihood of sustained outages CESA again understands that the CAISO is not required to study reliability issues beyond what is required by established planning standards, but the greater consideration of non-wires alternatives and the need to enhance grid resilience are worthy policy objectives that may warrant delay for the approval of the proposed transmission project.

## **Conclusion**

We appreciate CAISO's consideration of CESA's comments and look forward to ongoing participation in the TPP.